

For longtime residents (participants with over 50 years residency;  $N=96$ , mean age=60.68,  $SD=7.38$ ), town of residency (Mn exposed or not) predicts verbal fluency performance over and above the contribution of age and premorbid IQ ( $R^2_{change}=.053$ ,  $F_{change}=5.67$ ,  $p<.05$ ). As participant's town of residence category increased by one unit (from 0=mt v to 1=Marietta to 2=East Liverpool), predicted performance on verbal fluency decreased by 4.499 standard score units ( $t=-2.38$ ,  $p<.05$ ). Longtime residents of exposed towns perform worse on a verbal fluency task even when controlling for the influence of age and premorbid IQ. The model accounted for 15% of the variance in verbal fluency task performance ( $Total R^2 = .148$ )

Among these long-time residents, a significant difference in mean verbal fluency score was found based on town of residency [ $F(2,92)=3.239$ ,  $p<.05$ ]. Post-hoc paired comparisons revealed a significant difference between Mt. Vernon and East Liverpool, with East Liverpool having significantly lower mean verbal fluency scores, but no significant difference between Marietta and Mt. Vernon or Marietta and East Liverpool.

For the long-time residents living of East Liverpool or Marietta ( $N=74$ ), distance from Mn source did not predict performance on a verbal fluency task over and above the contribution of age and premorbid IQ ( $R^2_{change}=.026$ ,  $F_{change}=2.017$ ,  $p>.05$ ).

Looking at exposed vs. unexposed as a dichotomy, exposure still predicts verbal fluency performance over and above age and premorbid IQ for long-term residents ( $R^2_{change}=.044$ ,  $F_{change}=4.64$ ,  $p<.05$ ). Such that residents of the exposed towns (East Liverpool and Marietta) have predicted verbal fluency scores 7.807 standard score units lower than residents of Mt. Vernon ( $N=22$ ).